

LISTING OF CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (Currently Amended): ~~An~~ A noise reduction apparatus which reduces
~~for reducing a~~ noise level of noise contained in an input signal, comprising:

a detecting device which detects the noise ~~for detecting said level of said the~~
~~noise from the input signal;~~

a gain controlling device which generates a first control signal and a second
control signal on the basis of the detected noise level, the first control signal being used
for adjusting a level of the input signal so as to make the detected noise level equal to a
predetermined threshold level, and the second control signal being used for adjusting a
level of a reduced adjusted signal so as to restore the level of the reduced adjusted
signal to an original level of the input signal;

an adjusting device which adjusts the ~~for adjusting a level of said the input signal~~
on the basis of the first control signal ~~so as to make said detected level of said noise~~
~~equal to a predetermined threshold level;~~

a reducing device which reduces ~~for reducing a level of said the adjusted input~~
signal in accordance with a predetermined reducing characteristic and generates the
reduced adjusted signal of relation between said level of said adjusted input signal and
~~a reducing level of said adjusted input signal; and~~

a restoring device which restores the ~~for restoring a level of said the reduced~~
adjusted signal to the original level of the input signal on the basis of the second control
signal ~~to said level of said input signal.~~

Claim 2. (Currently Amended): The noise reduction An apparatus according to Claim 1, wherein said detecting device comprises:

an extracting device which extracts ~~for extracting~~ a high frequency component of the said input signal from the said input signal;

a rectifying device which rectifies the ~~for rectifying said~~ extracted high frequency component;

an envelope signal generating device which generates ~~for generating~~ an envelope signal of the said extracted high frequency component; and

a level analyzing device which detects ~~for detecting~~ a lowest level of the said envelope signal.

Claim 3. (Currently Amended): The noise reduction An apparatus according to Claim 1, wherein said detecting device comprises:

a sound existing part detecting device which detects ~~for detecting~~ a sound existing part of the said input signal; and

a noise level detecting device which detects the noise ~~for detecting said~~ level of the said noise ~~which is contained in~~ the said sound existing part.

Claim 4. (Currently Amended): The noise reduction An apparatus according to Claim 1, wherein said adjusting device comprises:

a determining device which determines ~~for determining~~ whether or not the noise said level of the said noise is higher than the said predetermined threshold level; and

a level adjusting device which adjusts the ~~for adjusting~~ said level of the said input signal so as to make the noise said level of ~~said noise~~ equal to the said predetermined threshold level if said determining device determines that the noise said level of ~~said~~ noise is higher than the said predetermined threshold level.

Claim 5. (Currently Amended): The noise reduction An apparatus according to Claim 1, wherein said reducing device comprises:

a dividing device which divides the ~~for dividing~~ said adjusted input signal into a plurality of divisional components whose frequency bands are different from each other;

a plurality of signal level detecting devices, each of which detects a level of one of the said divisional components;

a plurality of attenuating devices, each of which attenuates one of the said divisional components on the basis of the said detected level of the said corresponding divisional component; and

a mixing device which mixes ~~for mixing~~ all of the said attenuated divisional components.

Claim 6. (Currently Amended): The noise reduction An apparatus according to Claim 1, wherein said adjusting device comprises an attenuator, and said restoring device comprises an amplifier.

Claim 7. (Currently Amended): The noise reduction An apparatus according to Claim 6, wherein said amplifier amplifies the said reduced adjusted signal by using an inverse number of an attenuation factor of said attenuator as an amplification factor.

Claim 8. (Currently Amended): A noise reduction method which reduces of ~~reducing~~ a noise level of noise contained in an input signal, comprising ~~the processes~~ of:

a detecting process which detects the noise ~~detecting~~ a level of said noise from ~~the input signal~~;

a gain controlling process which generates a first control signal and a second control signal on the basis of the detected noise level, the first control signal being used for adjusting a level of the input signal so as to make the detected noise level equal to a predetermined threshold level, and the second control signal being used for adjusting a level of a reduced adjusted signal so as to restore the level of the reduced adjusted signal to an original level of the input signal;

an adjusting process which adjusts the ~~adjusting~~ a level of the said input signal on the basis of the first control signal ~~so as to make said detected level of said noise equal to a predetermined threshold level~~;

a reducing process which reduces ~~reducing~~ a level of the said adjusted input signal in accordance with a predetermined reducing characteristic and generates the reduced adjusted signal ~~of relation between said level of said adjusted input signal and a reducing level of said adjusted input signal~~; and

a restoring process which restores the ~~restoring~~ a level of the said reduced adjusted signal to the original level of the input signal on the basis of the second control signal ~~to said level of said input signal~~.

Claim 9. (Currently Amended): The noise reduction A method according to Claim 8, wherein said detecting process comprises ~~the processes of:~~

an extracting process which extracts ~~extracting~~ a high frequency component of the said input signal from the said input signal;

a rectifying process which rectifies the ~~rectifying said~~ extracted high frequency component;

an envelope signal generating process which generates ~~generating~~ an envelope signal of the said extracted high frequency component; and

a level analyzing process which detects ~~detecting~~ a lowest level of the said envelope signal.

Claim 10. (Currently Amended): The noise reduction A method according to Claim 8, wherein said detecting process comprises ~~the processes of:~~

a sound existing part detecting process which detects ~~detecting~~ a sound existing part of the said input signal; and

a noise level detecting process which detects the noise ~~detecting said~~ level of the said noise ~~which is contained in~~ the said sound existing part.

Claim 11. (Currently Amended): The noise reduction A method according to Claim 8, wherein said adjusting process comprises ~~the processes of:~~

a determining process which determines ~~determining~~ whether or not the noise said level of the said noise is higher than the said predetermined threshold level; and

a level adjusting process which adjusts the ~~adjusting~~ a level of the said input signal so as to make the noise said level of ~~said noise~~ equal to the said predetermined threshold level if it is determined in said determining process that the noise said level of ~~said noise~~ is higher than the said predetermined threshold level.

Claim 12. (Currently Amended): The noise reduction A method according to Claim 8, wherein said reducing process comprises ~~the processes of:~~

a dividing process which divides the ~~dividing~~ said adjusted input signal into a plurality of divisional components whose frequency bands are different from each other;

a detecting process which detects ~~detecting~~ a level of each of the said divisional components;

an attenuating process which attenuates ~~attenuating~~ each of the said divisional components on the basis of the said detected level of the said corresponding divisional component; and

a mixing process which mixes ~~mixing~~ all of the said attenuated divisional components.